

B.S. in Architectural Engineering

Suggested 4-Year Academic Flowchart

2022-2026 Catalog

	FRESHMAN		SOPHOMORE			JUNIOR			SENIOR		
Fall	Winter	Spring	Fall	Winter	Spring	Fall	Winter	Spring	Fall	Winter	Spring
Introduction to Building Systems ARCE 106 (2)			Structures I ARCE 211 (3) PHYS 141; MATH 142	Structures II ARCE 212 (3) (ARCE 211 w/min C-)	Structures III ARCE 227 (2) (ARCE 212 w/min C-)	Structural Analysis ARCE 302 (3) (ARCE 223; 227 w/min C Concur: ARCE 352)	Matrix Analysis of Structures ARCE 306 (3) (ARCE 302 w/min C Concur: ARCE 353)	Dynamics of Framed Structures ARCE 412 (3) (ME 212; MATH 244; ARCE 306 w/min C Concur: ARCE 354)	Seismic Analysis and Design ARCE 483 (3) (ARCE 372; 412 w/min C-)	Concrete Structures Design ARCE 452 (3) (ARCE 257; 444; 372 or 451 w/min C-)	
Design & Visual Communication 1.1 ARCH 131 (4)	Design & Visual Communication 1.2 ARCH 132 (4) (ARCH 131)	Design & Visual Communication 1.3 ARCH 133 (4) (ARCH 132)	Fundamentals of Construction Management CM 115 (6) (ARCE 106 or CM 113; MATH 141; PHYS 141)	Engineering Dynamics ME 212 (3) (MATH 241; ME 211 or ARCE 211)	Mechanics of Structural Members ARCE 223 (3) (ARCE 212 w/min C- . Concur: ARCE 224)	Structural Computing Analysis ARCE 352 (1) (CSC 231 or 234. Concur: ARCE 302)	Matrix Structural Computing Analysis ARCE 353 (1) (ARCE 352 w/min C Concur: ARCE 306)	Numerical Analysis Laboratory ARCE 354 (1) (MATH 244; ARCE 353 w/min C Concur: ARCE 412)	Reinforced Concrete Design ARCE 444 (4) (ARCE 371; ARCE 302 w/min C-)	Interdisciplinary Capstone Project ARCE 415 (4) (Senior Standing; Instructor Consent)	Introduction to Engineering Surveying BRAE 237 (2) (MATH 119)
Calculus I MATH 141 (4) ¹ * [B4]	Calculus II MATH 142 (4) ¹ (MATH 141 w/min C- or Instr. Consent) [B4]	Calculus III MATH 143 (4) ¹ (MATH 142 w/min C- or Instr. Consent) [Area B Elective]	Calculus IV MATH 241 (4) (MATH 143)	Structural CAD for Building Design ARCE 257 (2) (CM 115)	Mechanics of Structural Members Lab ARCE 224 (1) (Concur: ARCE 223)	Structural Systems Lab ARCE 371 (3) (ARCE 223; ARCE 227 w/min C-; 3rd year standing)	Steel Design I ARCE 303 (3) (ARCE 223 w/min C Coreq: ARCE 371)	Steel Structures Design Laboratory ARCE 372 (3) (ARCE 257; 302; 303; 352; 371 w/min C-)	ARCE Building Systems ARCE 476 (3) (Sr Standing)	Statistics STAT 312 (4) ¹ « OR STAT 321 (4) ¹ « [Upper-Division B]	
	General Physics I PHYS 141 (4) ¹ (MAIH 141 w/min C Coreq: MATH 142 or 1820 [Area B Elective]	General Physics II PHYS 142 (4) (PHYS 141; MATH 142 or 182)		Programming for Engineering Students CSC 231 (2) (MATH 142; PHYS 121, 131, or 141)	Gen Chem for Phys Sci & Engineering I CHEM 124 (4) ¹ * [B1 & B3]	Soil Mechanics ARCE 421 (3) (ARCE 212 w/min C-; Recom: GEOL 201)	Foundation Design ARCE 422 (3) (ARCE 421 w/min C-)	Timber Design ARCE 304 (3) (ARCE 371 w/min C-)	Timber & Masonry Structures ARCE 451 (3) (ARCE 257; 304; 305; 371 w/min C-)	Fluid Mechanics I ME 341 (3) (MATH 242 or 244; ME 212)	
	Oral Communication MS 101/102 (4)** [aken anytime during Fresh			Linear Analysis I MATH 244 (4) (MATH 143)	Physical Geology GEOL 201 (3) (MATH 119)	General Physics III PHYS 143 (4) (PHYS 141; MATH 142. Recom: MATH 241)	Electric Circuit Theory EE 201 (3) (MATH 244; PHYS 143)	Masonry Design ARCE 305 (2) (ARCE 371 w/min C-)	Eval of Cost Alt CM 232 (3) (MATH 142 or 182) OR Engineering Econ IME 314 (3) (MATH 241)		
Expository Writing ENGL 133/134 (4)** [A2] Can be taken anytime during Freshman Year Reasoning, Argumenta								Thermodynamics I ME 302 (3)			GE (4) ** GE (4) **
	COMS 126, 145, I	Completion of GE A2	45, PHIL 126, or WGQS 145 (4)**		GE (4) ** Graduation Writing Requirement GWR* (Students can attempt to fulfill the requirement after 90 earned units; students should complete the requirement before senior year)			GE (4) **	GE (4) **		
	16	16	17	18	17	18	17	15	16	18	14

Notes: MOST GENERAL EDUCATION COURSES CAN BE TAKEN IN ANY ORDER AS LONG AS PREREQUISITES ARE MET

* Refer to current catalog for prerequisites.

**One course from each of the following GE areas must be completed: A1, A2, A3, B2, C2, Lower-Division C Elective, Upper-Division C, D1, Area D Elective, Lower-Division E, and F. Upper-Division C should be taken only after Junior standing is reached (90 units).

Refer to online catalog for GE course selection, USCP and Graduation Writing Requirement (GWR).

USCP requirement can be satisfied by some (but not all) courses within GE categories: Upper-Division C, D1, D2, or E.

Quarterly advisor meetings are required prior to registration.

A corequisite course can be taken previously or concurrently. Concurrent courses must be taken together.

All ARCE Majors must receive a C- or better in ARCE Courses that are prerequisites for other ARCE courses.

¹ Required in Major or Support; also satisfies General Education (GE) requirement.

